

REMARKS

An Office Action was mailed on May 24, 2004. Claims 1 - 15 are pending.

All claims are amended at least for grammatical reasons, removing "characterized in that" claiming, or removal of reference numbers.

REJECTIONS UNDER 35 U.S.C. § 112, SECOND PARAGRAPH

Claims 1-15 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention.

In response thereto, the phrase "such as" has been deleted from claim 1 and antecedent basis for various terms in claims 1, 2 and 3 is now present. In claim 1, the length of the baffles is now recited in terms of the height of the susceptor, which is supported by Fig. 1.

It should be appreciated that the amendment made in response to the rejection under 35 U.S.C. §112, second paragraph constitutes a cosmetic change to the claims and is not intended to effect the scope of such claims.

Accordingly, it is respectfully requested that the Examiner withdraw the rejection under 35 U.S.C. § 112, second paragraph.

REJECTIONS UNDER 35 U.S.C. § 103

The Examiner has rejected claims 1, 2 and 4 - 12 under 35 U.S.C. §103(a) as being unpatentable over Conger in view of Tomoyasu and Pozzetti.

The Examiner has taken the position that the *curved* surface in Figure 5 of Conger et al., situated just below item (112), meets the limitation of plate (40) of the present invention. In response, the claims have been amended to recite "flat" plate (40). One can easily see that none of the cited reference disclose a flat plate (40) arranged between the diffuser (54) and the pyramidal susceptor (24), as provided by the present invention. Therefore, the obviousness rejection can be withdrawn.

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On page 3 of the Office Action, paragraph 9 lines 8 – 10, the Examiner states that the lower portion of the “quartz dome” above (114) corresponds to the chemical and resistant plate (40), quoting Fig. 5 and the paragraph at the end of column 5 of Conger et al. However, this paragraph relates to another embodiment (i.e. that of Fig. 2) and in the correct passage of Conger (i.e., column 7, lines 35 – 68) there is no mention of a flat plate, as claimed.

The flat plate 40 serves to divert the flow of gases coming from the pipes 106 a-c of the diffuser 54, towards the should 42 of the bell jar. In other words, the diffuser combined with flat plate and the shoulder of the bell jar provide for a new system of distributing the gas inside the reaction chamber of an epitaxial reactor.

This system is distinct from Conger because the gas coming from the manifold 16 enters a flow channel 112 formed by an annular passageway defined in the quartz dome above the graphite carousel 114. In Conger the gas is fed axially through a single channel on the top of the bell jar and then expanded in a hollow space defined between two hemispherical surfaces located at the top before reaching the susceptor. In the present invention the gas is directed by a plurality of pipes from the top of the bell jar towards a flat surface, which diverts it towards the shoulder 42 before reaching the susceptor.

From the foregoing, a person skilled in the art would have no logical reason for modifying the prior art structure in view of Conger’s disclosure alone, or in combination with Tomoyasu and Pozzetti.

Tomoyasu relates to a very different process, plasma etching carried out by making a gas impinging on a target formed by a wafer W. This is in contrast to the reaction chamber of the present invention, where the gas is prevented from striking the susceptor directly (see PCT published specification, page 7, lines 10 – 13).

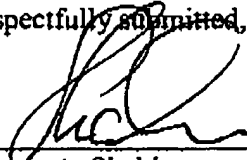
Finally, in Pozzetti the reaction chamber (Fig. 3) is provided with a circular diffuser and distributor 76, which replace the aforesaid pipes 106 a-c and flat plate 40 of the present invention.

An effort has been made to be fully responsive to the Examiner’s objections. In view of the above amendments and remarks, it is believed that claims 1- 15 are in condition for allowance. Passage of this case to allowance is earnestly solicited. However, if for any reason

the Examiner should consider this application not to be in condition for allowance, the Examiner is respectfully requested to telephone the undersigned attorney at the number listed below prior to issuing a further Action.

Any fee due with this paper may be charged on Deposit Account 50-1290.

Respectfully submitted,



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